



Published in final edited form as:

Arch Intern Med. 2011 May 9; 171(9): 862–864. doi:10.1001/archinternmed.2011.160.

When Conventional Providers Recommend Unconventional Medicine: Results of a National Study

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Background

In 2007, 38% of Americans used complementary and alternative medicine (CAM).¹ Rates of CAM use have increased since 2002, with mind-body therapies (MBT) comprising 75% of this rise.¹ Evidence to support the therapeutic use of MBT (including yoga, tai chi, qigong, meditation, guided imagery, progressive muscle relaxation, and deep breathing exercises)² is growing.³ Little is known about the use of MBT by patients due to conventional medical provider recommendation. Our study objective was to compare patients using MBT due to conventional medical provider referral to those who self-referred for MBT.

Methods

We obtained data from the 2007 National Health Interview Survey (NHIS),⁴ which uses a cross-sectional, multistage, stratified sampling design to question randomly selected households within the United States. The final sample included 23,393 respondents (response rate of 67.8%).⁴ We were interested in respondents who had used MBT (n=668) who were asked “*In the past 12 months, did you use [a MBT] because it was recommended by a health care provider?*” Respondents answering “yes” were classified as provider-referred users (P-MBT) and those answering “no” were classified as self-referred users (S-MBT).

*Dr. Nerurkar is supported by an Institutional National Research Service Award (T32AT000051-11) from the National Institutes of Health. Drs. Phillips and Davis are supported by a Mid-Career Investigator Award from the National Center for Complementary and Alternative Medicine, National Institutes of Health (K24-AT000589).

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A portion of this paper was presented at the annual meeting of the Society of General Internal Medicine, Minneapolis, MN, April 2010.

Conflict of interest: *None reported*

Financial Disclosure: *None reported*

Disclaimer: *The analyses, interpretations and conclusions are of the authors and do not reflect the views of the National Center for Health Statistics, the Centers for Disease Control and Prevention, the National Center for Complementary and Alternative Medicine, nor the National Institutes of Health.*

To account for NHIS' complex sampling scheme, we conducted weighted analyses using SAS-callable SUDAAN (version 10.0). Potential correlates of P-MBT use were 1) sociodemographic characteristics (age, gender, race, education, income, region, marital status, and insurance status), 2) health status (current health, comparison to prior year, number of days in bed due to illness, and the Charlson Comorbidity Index), 3) pre-existing medical conditions (using the 16 most prevalent comorbidities in the United States), 4) health behaviors (smoking, alcohol use, exercise, and BMI), and 5) health utilization (office visits in the past year, ER visits in the past year, and encounters with general physicians, medical specialists and mental health professionals). Multivariable logistic regression modeling identified those factors independently associated with P-MBT use.

Results

Nearly 1 in 30 Americans (2.9% of respondents), representing 6.36 million Americans, reported using P-MBT (n= 668) compared to 15.5% of respondents, representing 34.8 million Americans, who reported using S-MBT (n=3628) in the past 12 months. The mean age of P-MBT users was 46.8 years compared to 43.4 among S-MBT users. Deep breathing exercises were the most common P-MBT used (84.4%), followed by meditation (49.3%), yoga (22.6%), progressive muscle relaxation (19.9%) and guided imagery (13.9%); similar trends were seen in the S-MBT group. The total percentage exceeded 100% since more than one MBT modality was used by some respondents.

Our adjusted multivariable analyses identified factors independently associated with P-MBT use (Table). No sociodemographic characteristics were independently associated with P-MBT use. Of our health status markers, higher Charlson scores were associated with a greater likelihood of P-MBT use. Respondents with more chronic conditions, quantified by a Charlson score ≥ 4 and comprising 11.3% of all P-MBT users, were more likely to use P-MBT. Of our 16 comorbid conditions, only COPD & anxiety were associated with P-MBT use. Greater health care utilization was associated with a greater use of P-MBT. We observed a 'dose-response' relationship with the number of office visits and the use of P-MBT: as the number of office visits increased over a 12 month period, so did the likelihood of using P-MBT. P-MBT use was associated with an encounter with a mental health professional over the past 12 months. Finally, respondents with heavy alcohol use were less likely to use P-MBT.

Discussion

Our study is the first to examine patient factors associated with the use of MBT due to conventional medical provider referral. We found that individuals who used provider-referred MBT tended to have a greater illness burden and utilize the health care system more than their counterparts who self-referred for MBT. This is consistent with prior literature showing that increasing comorbidities correspond to greater rates of overall CAM use⁵ and CAM users are high utilizers of conventional health care services.^{5, 6} Our data suggest that conventional providers treating sicker patients with more frequent office visits may offer referrals for MBT as a last resort once conventional therapeutic options have been exhausted or have failed.

Both anxiety and visits to a mental health professional in the past year was associated with P-MBT use. Recent data suggest that the majority of patients who have seen a psychiatrist for treatment of anxiety or depression have also used CAM,⁷ and the association between MBT use and anxiety is well-documented.^{2, 8}

Although MBT shows promise in the treatment of substance abuse,⁹ heavy alcohol users comprise the smallest proportion of MBT users overall.² Possibly physicians refer patients who drink heavily to MBT, but a variety of barriers prevent their use of P-MBT.

Whether MBT referrals could result in improved patient outcomes or decreased health care utilization if offered earlier in the course of illness remains to be seen. Physicians' referrals for MBT may inform recommendations for use, highlight areas of underuse or overuse, or may suggest areas for future research and intervention.

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Table

Factors Independently Associated with the Use of P-MBT

	P-MBT Users, past 12 mon (weighted %) N=668	S-MBT Users, past 12 mon (weighted %) N=3628	Adjusted Multivariable Logistic Regression Results (OR, 95% CI & p-values)	
Sociodemographics				
No significant differences found between two groups				
Health Behaviors				
Alcohol Use				
Abstainer	13.5	12.7	1.00 [Reference]	p=0.01
Rare/Light	46.8	50.5	0.79 [0.57, 1.11]	
Moderate	14.3	16.2	0.92 [0.68, 1.38]	
Heavy	3.6	6.9	0.46 [0.25, 0.83]	
Former	21.5	12.5	1.06 [0.73, 1.53]	
Health Status				
Charlson Comorbidity Index				
0	35	57.5	1.00 [Reference]	p<0.001
1	29.7	24.4	1.51 [1.17, 1.95]	
2	15.6	9.7	1.72 [1.22, 2.43]	
3	8.4	5.1	1.55 [1.03, 2.34]	
>=4	11.3	3.3	2.57 [1.69, 3.91]	
Health Utilization				
Total number of office visits, past 12 months				
None	3.7	15.4	1.00 [Reference]	p<0.001
1	6.9	15.2	1.95 [1.12, 3.41]	
2-3	19.2	28.1	2.67 [1.62, 4.41]	
4-7	27.1	22	3.82 [2.38, 6.14]	
>=8	42.8	19.1	5.14 [3.25, 8.12]	
Encounter with mental health professional, past 12 months				
Yes	34.6	11.5	2.57 [1.99, 3.31]	p<0.001
No	65.4	88.4	1.00 [Reference]	
Medical conditions				
COPD/Emphysema				
Yes	6.4	1.2	3.06 [1.76, 5.31]	p<0.001
No	93.6	98.8	1.00 [Reference]	
Anxiety				
Yes	37.6	16.2	1.87 [1.47, 2.38]	p<0.001
No	62.4	83.8	1.00 [Reference]	

Data Source: CDC/NCHS, National Health Interview Survey, 2007.